Listing of The Claims

Please cancel claims 1-50.

51. (Currently Amended) A method for MRI imaging comprising:
administering to a patient an MRI contrast agent, comprising a perfluoroalkyl-containing metal complex that has a critical micelle formation concentration $< 10^{-3}$ mol/l, a hydrodynamic micelle diameter (2 Rh) > 1 nm and a proton relaxivity in plasma (R^1) > 10 l/mmol·s ,

allowing the uptake of contrast agent in tissue ,

conducting MRI imaging,

and visualizing ~~whereby~~ plaque in which contrast agent is uptaken, ~~infarcted tissue, or necrotic tissue are visualized~~

or

independently simultaneously visualizing necroses and tumors in which contrast agent is uptaken ~~are independently visualized~~.

52. **(Canceled)**

53. **(Previously Presented)** A method according to claim 51, wherein necroses or tumors are independently visualized.

54. **(Previously Presented)** A method according to claim 51, wherein the metal complex has a micelle formation concentration of $< 10^{-4}$ mol/l.

55. **(Previously Presented)** A method according to claim 51, wherein the metal complex has a hydrodynamic micelle diameter of > 3 nm.

56. **(Previously Presented)** A method according to claim 51, wherein the metal complex has a proton relaxivity in plasma of > 13 l/mmol·s.

57. **(Currently amended)** A method according to claim 51, wherein the perfluoroalkyl-containing metal complex is a compound of formula I

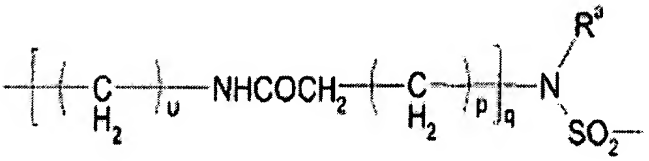
$$R^F\text{-}L\text{-}K \qquad I$$

in which

R^F is a perfluorinated, straight-chain or branched carbon chain with formula -$C_nF_{2n}E$, in which

E is a terminal fluorine, chlorine, bromine, iodine or hydrogen atom and n is a number from 4-30,

L is a direct bond, a methylene group, an -NHCO- group, a group



whereby p is a number from 0 to 10, and q and n, independently of one another, are 0 or 1, and R^a is a hydrogen atom, a methyl group, a -CH_2-OH group, a -CH_2-CO_2H group or a C_2-C_{15} alkyl, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 CO groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2

C_1-C_4 alkoxy groups, 1 to 2 carboxy groups, or a group -SO_3H,

or

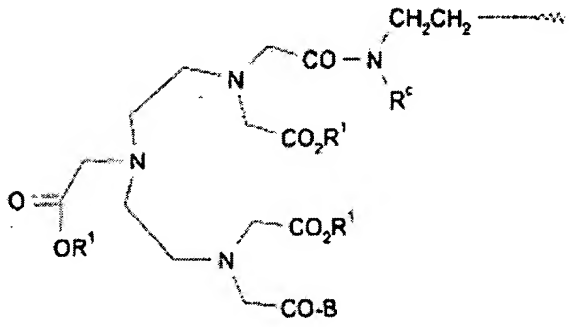
L is a straight-chain, branched, saturated or unsaturated C_2-C_{30} carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 -NR^a groups, 1 to 2 sulfur atoms, a piperazine group, a -$CONR^a$ group, an -NR^aCO group, an -SO_2 group, an -NR^a-CO_2 group, 1 to 2 CO groups, a group -CO-N-T-N(R^a)-SO_2-R^F, or 1 to 2 optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR^a groups, 1 to 2 oxo groups, 1 to 2 -NH-COR^a groups, 1 to 2 -$CONHR^a$ groups, 1 to 2 -$(CH_2)_p$-CO_2H groups, 1 to 2 groups -$(CH_2)_p$-$(O)_q$-CH_2CH_2-R^F,

whereby

R^a, R^F and p and q have the above-indicated meanings, and

T is a C_2-C_{10} chain, which optionally is interrupted by 1 to 2 oxygen atoms or 1 to 2 -NHCO groups,

K is a complexing agent or metal complex of formula II



(II)

in which R^c, R^1 and B are independent of one another,

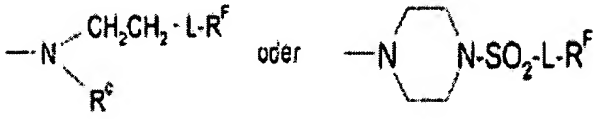
and

R^c is R^a or is -(CH_2)m-L-R^F, whereby m is 0, 1 or 2, and L and R^F have the above-mentioned meaning,

R^1, independently of one another, is a hydrogen atom or a metal ion equivalent

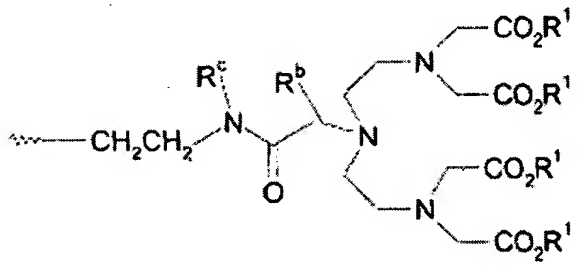
of atomic numbers 22-29, 42-46 or 58-70,

B is $-OR^1$,



whereby R^1, L, R^F and R^c have the above-mentioned meanings, or

K is a complexing agent or complex of formula III

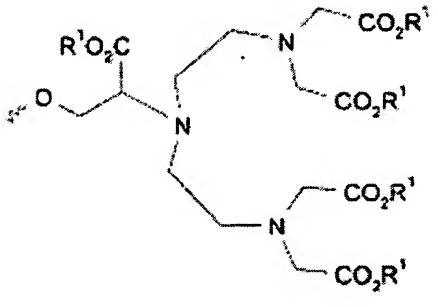


(III)

in which R^c and R^1 have the above-mentioned meanings and R^b has the meaning of R^a

or

K is a complexing agent or complex of formula IV

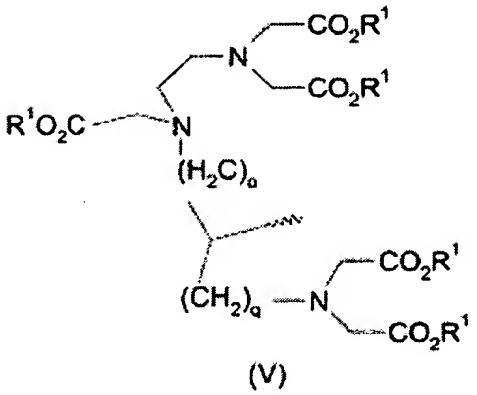


(IV)

in which R^1 has the above-mentioned meaning

or

K is a complexing agent or complex of formula V

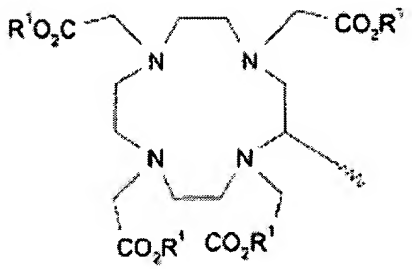


(V)

in which R^1 has the above-mentioned meaning, and o and q stand for numbers 0 or 1, and yields the sum o + q = 1,

or

K is a complexing agent or complex of formula VI

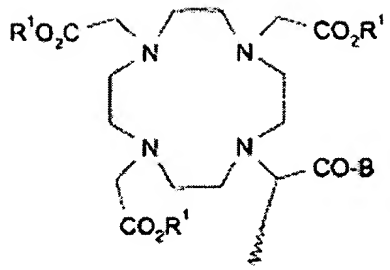


(VI)

in which R^1 has the above-mentioned meaning

or

K is a complexing agent or complex of formula VII

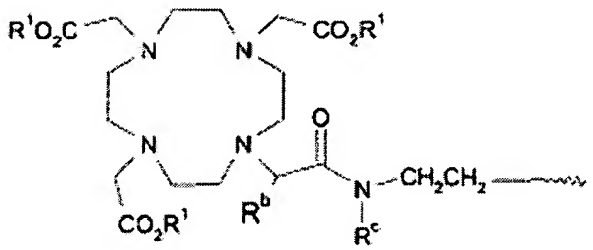


(VII)

in which R^1 and B have the above-mentioned meanings

or

K is a complexing agent or complex of formula VIII

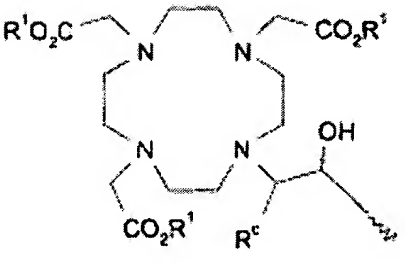


(VIII)

in which R^c and R^1 have the above-mentioned meanings, and R^b is R^a

or

K is a complexing agent or complex of formula IX

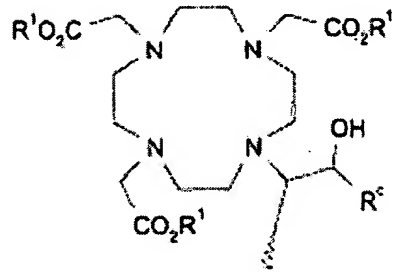


(IX)

in which R^c and R^1 have the above-mentioned meanings,

or

K is a complexing agent or complex of formula X

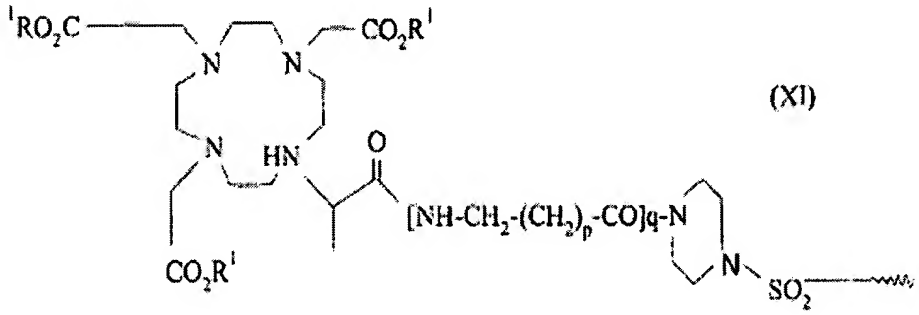


(X)

in which R^c and R^1 have the above-mentioned meanings,

or

K is a complexing agent or complex of formula XI



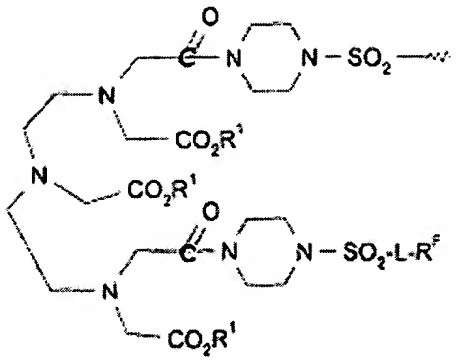
(XI)

in which R^1, p and q have the above-mentioned meanings,

and R^b has the meaning of R^a,

or

K is a complexing agent or complex of formula XII

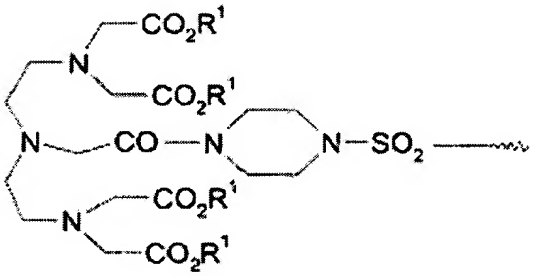


(XII)

in which L, R^F and Z^1 have the above-mentioned meanings,

or

K is a complexing agent or complex of formula XIII



(XIII)

in which R^1 has the above-mentioned meaning, or

K is a salt of one of the complexing agents or complexes of fomula II to XIII with an organic and/or inorganic base or amino acid or amino acid amide.

58. **(Previously Presented)** A method according to claim 57, wherein in the compound of formula I,

L is

α-CH_2-β

α-CH_2CH_2-β

α-$(CH_2)_s$-β s = 3 - 15

α-CH_2-O-CH_2CH_2-β

α-CH_2-(O-CH_2-CH_2-)$_t$-β t = 2 - 6

α-CH_2-NH-CO-β

α-CH_2-NH-CO-CH_2-N(CH_2COOH)-SO_2-β

α-CH_2-NH-CO-CH_2-N(C_2H_5)-SO_2-β

α-CH_2-NH-CO-CH_2-N($C_{10}H_{21}$)-SO_2-β

α-CH_2-NH-CO-CH_2-N(C_6H_{13})-SO_2-β

α-CH_2-NH-CO-$(CH_2)_{10}$-N(C_2H_5)-SO_2-β

α-CH_2-NH-CO-CH_2-N(-CH_2-C_6H_5)-SO_2-β

α-CH_2-NH-CO-CH_2-N(-CH_2-CH_2-OH)SO_2-β

α-CH_2-NHCO-$(CH_2)_{10}$-S-CH_2CH_2-β

α-$CH_2NHCOCH_2$-O-CH_2CH_2-β

α-$CH_2NHCO(CH_2)_{10}$-O-CH_2CH_2-β

α-CH_2-C_6H_4-O-CH_2CH_2-β

α-CH_2-O-CH_2-C(CH_2-OCH_2CH_2-C_6F_{13})$_2$-CH_2-OCH_2-CH_2-β

α-CH_2-$NHCOCH_2CH_2CON$-$CH_2CH_2NHCOCH_2N(C_2H_5)SO_2C_8F_{17}$

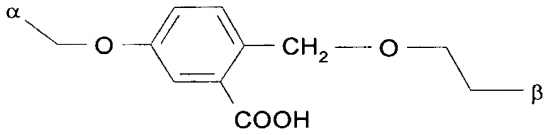
CH_2-$CH_2NHCOCH_2N(C_2H_5)$-SO_2-β

α-CH_2-O-CH_2-$CH(OC_{10}H_{21})$-CH_2-O-CH_2CH_2-β

α-$(CH_2NHCO)_4$-CH_2O-CH_2CH_2-β

α-$(CH_2NHCO)_3$-CH_2O-CH_2CH_2-β

α-CH_2-$OCH_2C(CH_2OH)_2$-CH_2-O-CH_2CH_2-β



α-$CH_2NHCOCH_2N(C_6H_5)$-SO_2-β

α-NHCO-CH_2-CH_2-β

α-NHCO-CH_2-O-CH_2CH_2-β

α-NH-CO-β

α-NH-CO-CH_2-N(CH_2COOH)-SO_2-β

α-NH-CO-CH_2-N(C_2H_5)-SO_2-β

α-NH-CO-CH_2-N($C_{10}H_{21}$)-SO_2-β

α-NH-CO-CH_2-N(C_6H_{13})-SO_2-β

α-NH-CO-$(CH_2)_{10}$-N(C_2H_5)-SO_2-β

α-NH-CO-CH_2-N(-CH_2-C_6H_5)-SO_2-β

α-NH-CO-CH_2-N(-CH_2-CH_2-OH)SO_2-β
α-NH-CO-CH_2-β
α-CH_2-O-C_6H_4-O-CH_2-CH_2-β
α-CH_2-C_6H_4-O-CH_2-CH_2-β
α-N(C_2H_5)-SO_2-β
α-N(C_6H_5)-SO_2-β
α-N($C_{10}H_{21}$)-SO_2-β
α-N(C_6H_{13})-SO_2-β
α-N(C_2H_4OH)-SO_2-β
α-N(CH_2COOH)-SO_2-β
α-N($CH_2C_6H_5$)-SO_2-β
α-N-[$CH(CH_2OH)_2$]-SO_2-β or
α-N-[$CH(CH_2OH)CH(CH_2OH)$]-SO_2-β,

in which α is the binding site to the complexing agent or metal complex K, and β is the binding site to the fluorine radical.

59. **(Previously Presented)** A method according to claim 57 , wherein the compound of formula I, is a compound in which n in formula -$C_nF_{2n}E$ is a number from 4-15 and/or E is a fluorine atom.

60. **(Previously Presented)** A method according to claims 57, wherein the compound of formula I is:

Gadolinium complex of 10-[1-methyl-2-oxo-3-aza-5-oxo-{4-perfluorooctylsulfonyl-piperazin-1-yl}-pentyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-7-oxa-10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17-heptadecafluoroheptadecyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5,9-dioxo-9-{4-perfluorooctyl)-piperazin-1-yl}-nonyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-7-aza-7-(perfluorooctyl-sulfonyl)-nonyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-oxa-1H,1H,2H,3H,3H,5H,5H,6H,6H-perfluorotetradecyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-7-oxa-10,10,11,11,12,12,13,13,14,14,15,15,-16,16,17,17,18,18,19,19-henicosafluoro-nonadecyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-11-aza-11-(perfluorooctylsulfonyl)-tridecyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane, or

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-7-aza-7-(perfluorooctylsulfonyl)-8-phenyl-octyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraaza-cyclododecane.

61. **(Previously Presented)** A method according to claim 51, wherein the perfluoroalkyl-containing metal complex, is a compound of formula Ia

$$A\text{-}R^F \qquad \text{(Ia)}$$

in which

A is a group that contains 2 to 6 metal complexes, which are bonded directly or via a linker to a nitrogen atom of an annular skeleton chain,

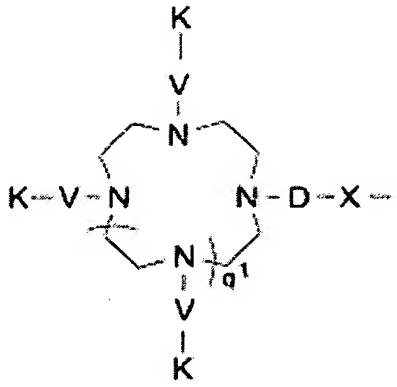
and

R^F is a perfluorinated, straight-chain or branched carbon chain with formula $-C_nF_{2n}E$, in which

E is a terminal fluorine, chlorine, bromine, iodine or hydrogen atom,

and n is a number from 4-30,

whereby A has the following structure:



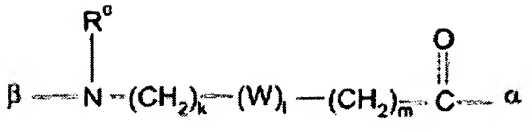
whereby

q^1 is 0, 1, 2 or 3,

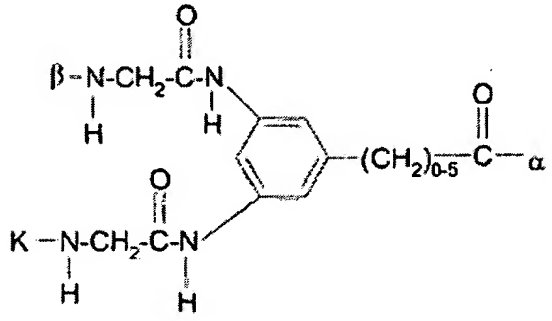
K is a complexing agent or metal complex or a salts thereof with an organic and/or inorganic base or amino acid or amino acid amide,

X as the point of attachment to R^F, is a direct bond, a phenylene group or a C_1-C_{10} alkylene chain, which optionally contains 1-15 oxygen atoms, 1-5 sulfur atoms, 1-10 carbonyl groups, 10-10 (NR^d) groups, 1-2 NR^dSO_2 groups, 1-10 $CONR^d$ groups, 1 piperidine group, 1-3 SO_2 groups and/or 1-2 phenylene groups or optionally is substituted by 1-3 radicals R^F, in which R^d is a hydrogen atom, a phenyl group, benzyl group or a C_1-C_{15} alkyl group, which optionally contains 1-2 NHCO, 1-2 CO groups, 1-5 oxygen atoms and optionally is substituted by 1-5 hydroxy, 1-5 methoxy, 1-3 carboxy, or 1-3 R^F radicals,

V is a direct bond or a chain of formula IIa or IIIa:



(IIa)



(IIIa)

in which

- R^e is a hydrogen atom, a phenyl group, a benzyl group or a C_1-C_7 alkyl group, which optionally is substituted with a carboxy group, a methoxy group or a hydroxy group,
- W is a direct bond, a polyglycol ether group with up to 5 glycol units, or a group of formula IVa

$$-CH(R^h)- \qquad \text{(IVa)}$$

in which R^h is a C_1-C_7 carboxylic acid, a phenyl group, a benzyl group or a -$(CH_2)_{1-5}$-NH-K group,

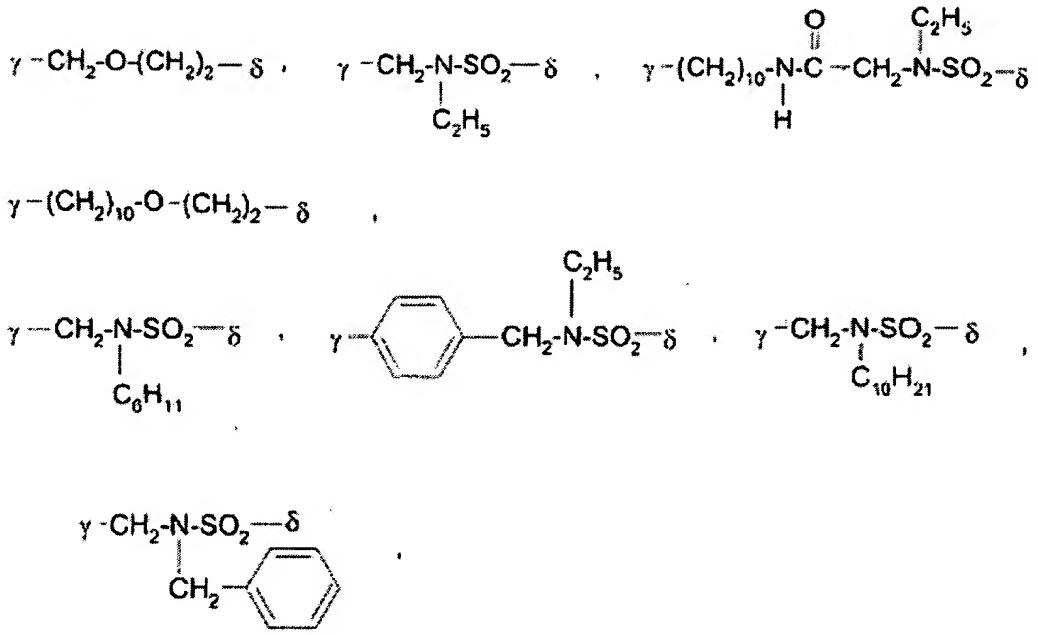
- α is the binding to the nitrogen atom of the skeleton chain, β is the binding to complexing agent or metal complex K,
- and in which variables k and m stand for natural numbers between 0 and 10, and l is 0 or 1

and whereby

D is a CO or SO_2 group.

62. **(Previously Presented)** A method according to claim 61, wherein the compound of formula Ia is a compound in which q^1 is the number 1.

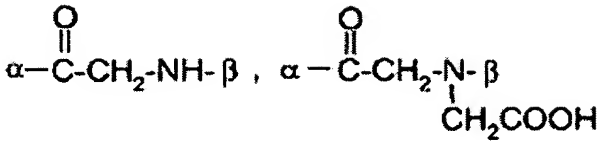
63. **(Previously Presented)** A method according to claim 61, wherein the compound of formula Ia is a compound in which X is an alkylene chain, which contains 1-10 -CH_2CH_2O- groups or 1-5 -$COCH_2NH$- groups, a direct bond or one of the following structures

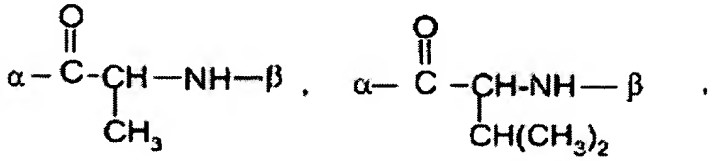


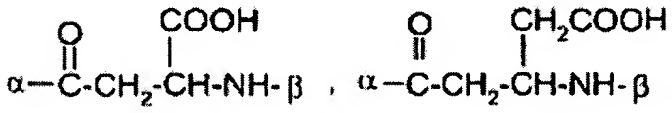
whereby

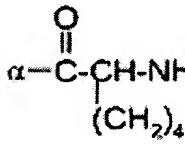
γ binds to D, and δ binds to R^F.

64. **(Previously Presented)** A method according to claim 61, wherein the compound of formula Ia, is a compound in which V is a group with one of the following structures

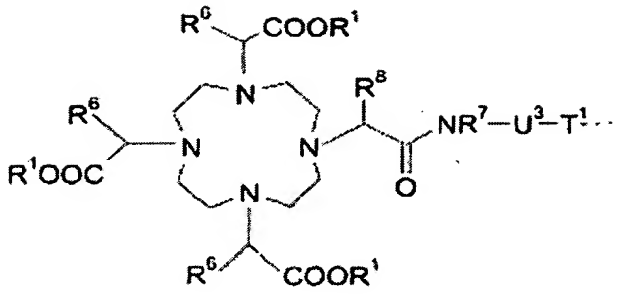




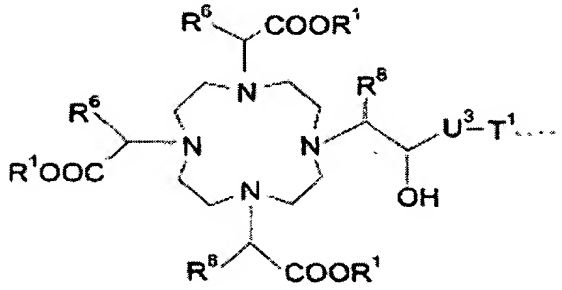




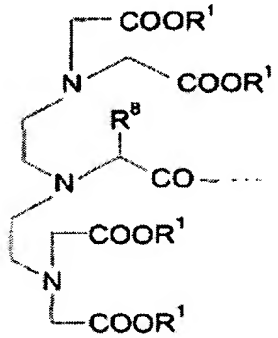
65. **(Previously Presented)** A method according to claim 61, wherein the compound of formula Ia, is a compound in which K is a complexing agent or complex of formula Va, VIa, VIIa or VIIIa,



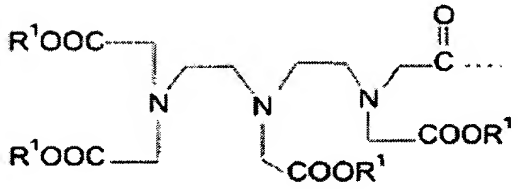
(Va)



(VIa)



(VIIa)



(VIIIa)

whereby

R^1, independently of one another, are a hydrogen atom or a metal ion equivalent of the elements of atomic numbers 23-29, 42-46 or 58-70,

R^8 is a hydrogen atom or a straight-chain, branched, saturated or unsaturated C_1-C_{30} alkyl chain, which optionally is substituted by 1-5 hydroxy, 1-3

carboxy or 1 phenyl group(s) and/or optionally is interrupted by 1-10 oxygen atoms, 1 phenylene group or 1 phenylenoxy group,

R^6 are independently a hydrogen atom, a straight-chain or branched C_1-C_7 alkyl radical, a phenyl radical or benzyl radical,

R^7 is a hydrogen atom, a methyl group or ethyl group, which optionally is substituted by a hydroxy group or carboxy group,

U^3 is a straight-chain, branched, saturated or unsaturated C_1-C_{20} alkylene group optionally containing 1-5 imino groups, 1-3 phenylene groups, 1-3 phenylenoxy groups, 1-3 phenylenimino groups, 1-5 amide groups, 1-2 hydrazide groups, 1-5 carbonyl groups, 1-5 ethylenoxy groups, 1 urea group, 1 thiourea group, 1-2 carboxyalkylimino groups, 1-2 ester groups, 1-1-0 oxygen atoms, 1-5 sulfur atoms and/or 1-5 nitrogen atoms, and/or optionally substituted by 1-5 hydroxy groups, 1-2 mercapto groups, 1-5 oxo groups, 1-5 thioxo groups, 1-3 carboxy groups, 1-5 carboxyalkyl groups, 1-5 ester groups and/or 1-3 amino groups, whereby the optionally contained phenylene groups can be substituted by 1-2 carboxy groups, 1-2 sulfone groups or 1-2 hydroxy groups

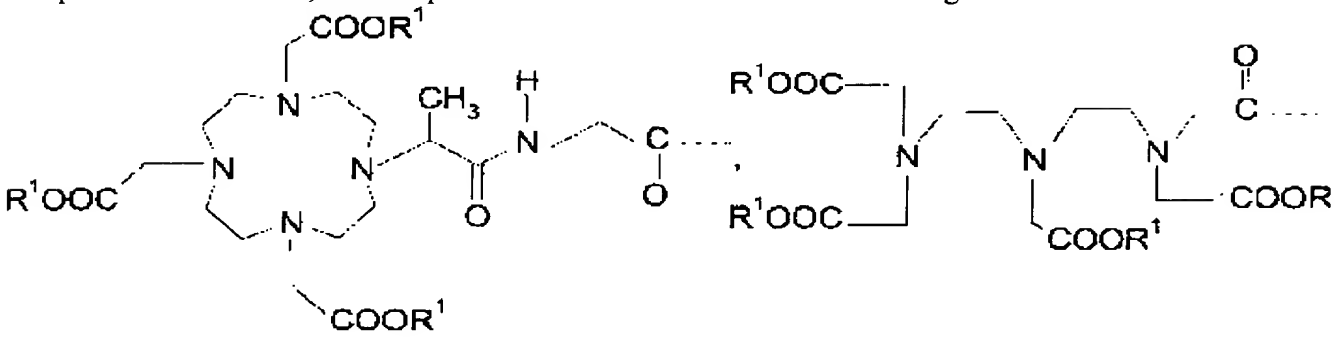
T^1 is a -CO-β, -NHCO-β or -NHCS-β group, whereby β is the binding site to V.

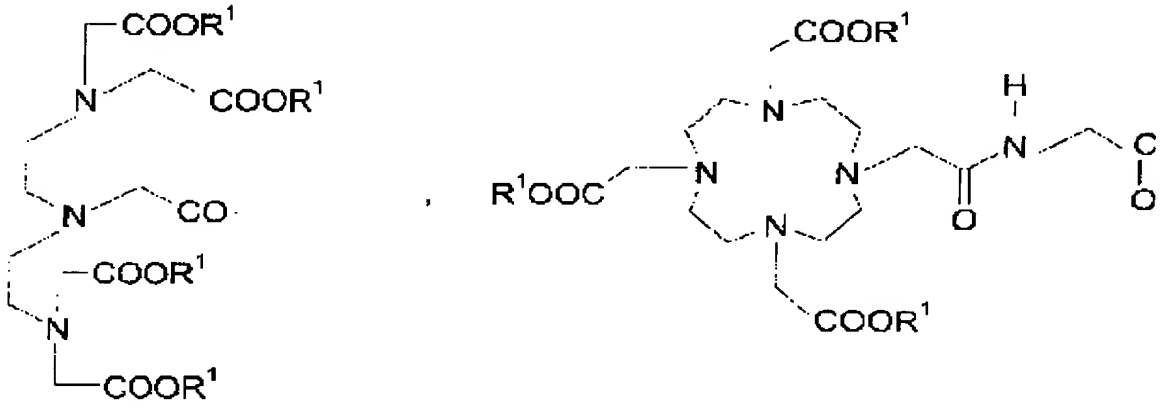
66. **(Previously Presented)** A method according to claim 65, wherein the C_1-C_{20} alkylene chain that is U^3 contains the group $-CH_2NHCO-$, $-NHCOCH_2O-$, $-NHCOCH_2OC_6H_4-$, $-N(CH_2CO_2H)-$, $-CH_2OCH_2-$, $-NHCOCH_2C_6H_4-$, $-NHCSNHC_6H_4-$, $-CH_2OC_6H_4-$, or $-CH_2CH_2O-$ and/or is substituted by the group -COOH and/or $-CH_2COOH$.

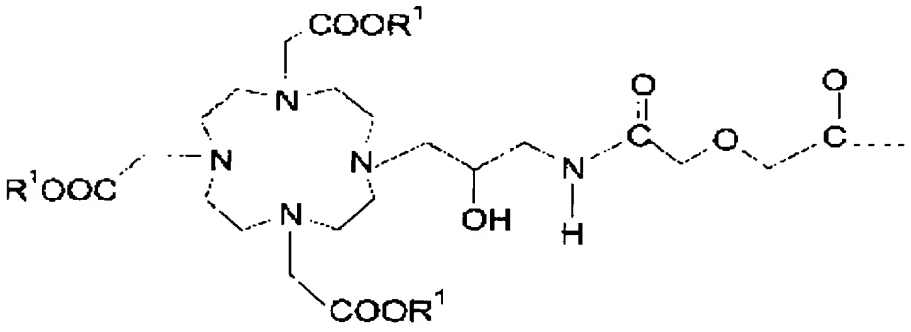
67. **(Previously Presented)** A method according to claim 65, wherein U^3 is a $-CH_2-$, $-CH_2CH_2-$, $-CH_2CH_2CH_2-$, $-C_6H_4-$, $-C_6H_{10}-$, $-CH_2C_6H_4-$, $-CH_2NHCOCH_2CH(CH_2CO_2H)-C_6H_4-$, $-CH_2NHCOCH_2OCH_2-$, or $-CH_2NHCOCH_2C_6H_4-$

group.

68. **(Previously Presented)** A method according to claim 61, wherein the compound of formula Ia, is a compound in which K has one of the following structures:



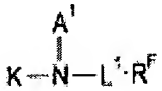




69. **(Previously Presented)** A method according to claim 61 , wherein the compound of formula Ia, is a compound in which the perfluoroalkyl chain is R^F is $-C_6F_{13}$, $-C_8F_{17}$, $-C_{10}F_{21}$ or $-C_{12}F_{25}$.

70. **(Previously Presented)** A method according to claim 61 , wherein the compound of formula Ia is a gadolinium complex of 1,4,7-tris{1,4,7-tris(N-(carboxylatomethyl)-10-[N-1-methyl-3,6-diaza-2,5,8-trioxooctane-1,8-diyl)]-1,4,7,10-tetraazacyclododecane, Gd complex}-10-[N-2H,2H,4H,4H,5H,5H-3-oxa-perfluorotridecanoyl]-1,4,7,10-tetraazacyclododecane .

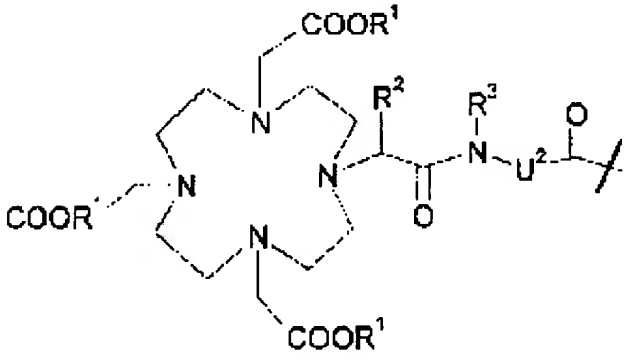
71. **(Previously Presented)** A method according to claim 51 , wherein the perfluoroalkyl-containing metal complex, is a compound of formula Ib



(Ib)

in which

K is a complexing agent or a metal complex of formula IIb



(IIb)

whereby

R^1 is a hydrogen atom or a metal ion equivalent of atomic numbers 23-

29, 42-46 or 58-70,

R^2 and R^3 are independently a hydrogen atom, a C_1-C_7 alkyl group, a benzyl group, a phenyl group, $-CH_2OH$ or $-CH_2-OCH_3$,

U^2 is radical L^1, whereby L^1 and U^2, independently of one another, can be the same or different,

A^1 is a hydrogen atom, a straight-chain or branched C_1-C_{30} alkyl group, which optionally is interrupted by 1-15 oxygen atoms, and/or optionally is substituted with 1-10 hydroxy groups, 1-2 COOH groups, a phenyl group, a benzyl group and/or 1-5 $-OR^9$ groups, with R^9 having the meaning of a hydrogen atom or a C_1-C_7 alkyl radical, or $-L^1-R^F$,

L^1 is a straight-chain or branched C_1-C_{30} alkylene group, which optionally is interrupted by 1-10 oxygen atoms, 1-5 -NH-CO groups, 1-5 -CO-NH groups, by a phenylene group optionally substituted by a COOH- group, 1-3 sulfur atoms, 1-2 $-N(B^1)-SO_2$ groups and/or 1-2 $-SO_2-N(B^1)$-groups with B^1 in the meaning of A^1, an NHCO group, a CONH group, an $N(B^1)-SO_2$ group or an $-SO_2-N(B^1)$ group and/or optionally is substituted with radical R^F, and

R^F is a straight-chain or branched perfluorinated alkyl radical of formula $C_nF_{2n}E$, whereby n is number 4-30, and

E is a terminal fluorine atom, chlorine atom, bromine atom, iodine atom or a hydrogen atom,

and optionally present acid groups optionally can be present as salts of organic and/or inorganic bases or amino acids or amino acid amides.

72. **(Previously Presented)** A method according to claim 71, wherein the compound of formula Ib, is a compound in which R^2, R^3 and R^9, independently of one another, mean hydrogen or a C_1-C_4 alkyl group.

73. **(Previously Presented)** A method according to claim 71, wherein the

compound of formula Ib, is a compound in which A^1 is hydrogen, a C_1-C_5 alkyl radical, or the radicals

C_2H_4-O-CH_3, C_3H_6-O-CH_3,

C_2H_4-O-$(C_2H_4$-O$)_t$-C_2H_4-OH,

C_2H_4-O-$(C_2H_4$-O$)_t$-C_2H_4-OCH_3,C_2H_4OH,

C_3H_6OH, C_4H_8OH, $C_5H_{10}OH$, $C_6H_{12}OH$, $C_7H_{14}OH$,

$CH(OH)CH_2OH$,

$CH(OH)CH(OH)CH_2OH$, $CH_2[CH(OH)]_u{}^1CH_2OH$,

$CH[CH_2(OH)]CH(OH)CH_2OH$,

$C_2H_4CH(OH)CH_2OH$,

$(CH_2)_sCOOH$,

C_2H_4-O-$(C_2H_4$-O$)_t$-CH_2COOH , or

C_2H_4-O-$(C_2H_4$-O$)_t$-C_2H_4-$C_nF_{2n}E$

whereby

s is integers 1 to 15,

t is integers 0 to 13,

u^1 is integers 1 to 10,

n is integers 4 to 20, and

E is hydrogen, fluorine, chlorine, bromine or iodine atoms, and optionally, their branched isomers.

74. **(Previously Presented)** A method according to claim 71, wherein the compound of formula Ib, is a compound in which A^1 is hydrogen, C_1-C_{10} alkyl, C_2H_4-O-CH_3, C_3H_6-O-CH_3,

C_2H_4-O-$(C_2H_4$-O$)_x$-C_2H_4-OH, C_2H_4-O-$(C_2H_4$-O$)_x$-C_2H_4-OCH_3,

C_2H_4OH, C_3H_6OH,

$CH_2[CH(OH)]_yCH_2OH$,

$CH[CH_2(OH)]CH(OH)CH_2OH$,

$(CH_2)_wCOOH$,

C_2H_4-O-$(C_2H_4$-O$)_x$-CH_2COOH or

C_2H_4-O-$(C_2H_4$-O$)_x$-C_2H_4-$C_nF_{2n}E$,

whereby

x is integers 0 to 5,

y is integers 1 to 6,

w is integers 1 to 10,

n is integers 4 to 15, and

E is a fluorine atom, and, optionally, their branched isomers.

75. **(Previously Presented)** A method according to claim 71, wherein the compound of formula Ib, is a compound in which L^1 is

α-$(CH_2)_S$-β

α-CH_2-CH_2-(O-CH_2-CH_2-$)_y$-β

α-CH_2-(O-CH_2-CH_2-$)_y$-β,

α-CH_2-NH-CO-β

α-CH_2-CH_2-NH-SO_2-β

α-CH_2-NH-CO-CH_2-N(CH_2COOH)-SO_2-β

α-CH_2-NH-CO-CH_2-N(C_2H_5)-SO_2-β

α-CH_2-NH-CO-CH_2-N($C_{10}H_{21}$)-SO_2-β

α-CH_2-NH-CO-CH_2-N(C_6H_{13})-SO_2-β

α-CH_2-NH-CO-$(CH_2)_{10}$-N(C_2H_5)-SO_2-β

α-CH_2-NH-CO-CH_2-N(-CH_2-C_6H_5)-SO_2-β

α-CH_2-NH-CO-CH_2-N(-CH_2-CH_2-OH)SO_2-β

α-CH_2-NHCO-$(CH_2)_{10}$-S-CH_2CH_2-β

α-$CH_2NHCOCH_2$-O-CH_2CH_2-β

α-CH_2-$CH_2NHCOCH_2$-O-CH_2CH_2-β

α-CH_2-(CH_2-CH_2-O$)_t$-$(CH_2)_3NHCO$-CH_2-O-CH_2CH_2-β

α-$CH_2NHCO(CH_2)_{10}$-O-CH_2CH_2-β

α-$CH_2CH_2NHCO(CH_2)_{10}$-O-CH_2CH_2-β

α-CH_2-C_6H_4-O-CH_2CH_2-β whereby the phenylene group 1,4 or 1,3 is linked

α-CH_2-O-CH_2-C(CH_2-OCH_2CH_2-C_6F_{13})$_2$-CH_2-OCH_2-CH_2-β

α-CH_2-NHCOCH_2CH_2CON-CH_2CH_2NHCOCH_2N(C_2H_5)$SO_2C_8F_{17}$β

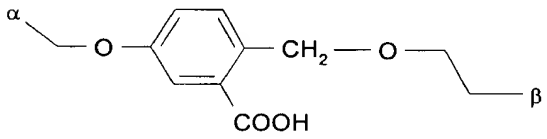
α-CH_2-CH_2NHCOCH_2N(C_2H_5)-SO_2-β

α-CH_2-O-CH_2-CH($OC_{10}H_{21}$)-CH_2-O-CH_2CH_2-β

α-(CH_2NHCO)$_4$-CH_2O-CH_2CH_2-β

α-(CH_2NHCO)$_3$-CH_2O-CH_2CH_2-β

α-CH_2-OCH_2C(CH_2OH)$_2$-CH_2-O-CH_2CH_2-β



α-CH_2NHCOCH_2N(C_6H_5)-SO_2-β

α-NHCO-CH_2-CH_2-β

α-NHCO-CH_2-O-CH_2CH_2-β

α-NH-CO-β

α-NH-CO-CH_2-N(CH_2COOH)-SO_2-β

α-NH-CO-CH_2-N(C_2H_5)-SO_2-β

α-NH-CO-CH_2-N($C_{10}H_{21}$)-SO_2-β

α-NH-CO-CH_2-N(C_6H_{13})-SO_2-β

α-NH-CO-(CH_2)$_{10}$-N(C_2H_5)-SO_2-β

α-NH-CO-CH_2-N(-CH_2-C_6H_5)-SO_2-β

α-NH-CO-CH_2-N(-CH_2-CH_2-OH)SO_2-β

α-NH-CO-CH_2-β

α-CH_2-O-C_6H_4-O-CH_2-CH_2-β

α-CH_2-C_6H_4-O-CH_2-CH_2-β

α-N(C_2H_5)-SO_2-β

α-N(C_6H_5)-SO_2-β

α-N($C_{10}H_{21}$)-SO_2-β

α-N(C_6H_{13})-SO_2-β

α-N(C_2H_4OH)-SO_2-β

α-N(CH_2COOH)-SO_2-β

α-N($CH_2C_6H_5$)-SO_2-β

α-N-[CH(CH_2OH)$_2$]-SO_2-β **or**

α-N-[CH(CH_2OH)CH(OH)(CH_2OH)]-SO_2-β

whereby

s is integers 1 to 15 and

y is integers 1 to 6.

76. **(Previously Presented)** A method according to claim 71, wherein the compound of formula Ib, is a compound in which L^1 is

α-CH_2-O-CH_2CH_2-β,

α-CH_2-CH_2-(O-CH_2-CH_2)$_y$-β,

α-CH_2-(O-CH_2-CH_2-)$_y$-β,

α-CH_2-CH_2-NH-SO_2-β,

α-$CH_2NHCOCH_2$-O-CH_2CH_2-β

α-CH_2-$CH_2NHCOCH_2$-O-CH_2CH_2-β

α-CH_2-(CH_2-CH_2-O)$_y$-$(CH_2)_3NHCO$-CH_2-O-CH_2CH_2-β

α-$CH_2NHCO(CH_2)_{10}$-O-CH_2CH_2-β

α-$CH_2CH_2NHCO(CH_2)_{10}$-O-CH_2CH_2-β

α-CH_2-O-CH_2-$CH(OC_{10}H_{21})$-CH_2-O-CH_2CH_2-β

α-CH_2-O-C_6H_4-O-CH_2-CH_2-β or

α-CH_2-C_6H_4-O-CH_2-CH_2-β

whereby

y is an interger from 1 to 6.

77. **(Previously Presented)** A method according to claim 71, wherein the compound of formula Ib, is a compound in which R^F is a straight-chain or branched perfluorinated alkyl radical of formula $C_nF_{2n}E$, whereby n is a number from 4 to 15 and E stands for a terminal fluorine atom.

78. **(Previously Presented)** A method according to claim 71 , wherein the compound of formula Ib is a :

1,4,7-Tris(carboxylatomethyl)-10-(3-aza-4-oxo-hexan-5-ylic)-acid-(2,3-dihydroxypropyl)-N-(1H,1H,2H,2H,4H,4H,5H,5H-3-oxa)-perfluorotridecyl)-amide]-1,4,7,10-tetraazacyclododecane, gadolinium complex,
1,4,7-Tris(carboxylatomethyl)-10-{(3-aza-4-oxo-hexan-5-ylic)acid-N-(3,6,9,12,15-pentaoxa)-hexadecyl)-(1H,1H,2H,2H,4H,4H,5H,5H-3-oxa)-perfluorotridecyl]-amide}-1,4,7,10-tetraazacyclododecane, gadolinium complex,
1,4,7-Tris(carboxylatomethyl)-10-{(3-aza-4-oxo-hexan-5-ylic)-acid-N-5-hydroxy-3-oxa-pentyl)-N-(1H,1H,2H,2H,4H,4H,5H,5H-3-oxa)-perfluorotridecyl]-amide}-1,4,7,10-tetraazacyclododecane, gadolinium complex,
1,4,7-Tris(carboxylatomethyl)-10-{(3-aza-4-oxo-hexan-5-ylic)-acid-[N-3,6,9,15-tetraoxa-12-aza-15-oxo-C_{17}-C_{26}-hepta-decafluor)hexacosyl]-amide}-1,4,7,10-tetraazacyclododecane, gadolinium complex, or
1,4,7-Tris(carboxylatomethyl)-10-[(3-aza-4-oxo-hexan-5-ylic]-acid-N-(2-methoxyethyl)-N-(1H,1H,2H,2H,4H,4H,5H,5H-3-oxa)-perfluorotridecyl]-amide}-1,4,7,10-tetraazacyclododecane, gadolinium complex.

79. **(Previously Presented)** A method according to claim 57, wherein the perfluoroalkyl-containing metal complex is in a galenical formulation that contains a paramagnetic, perfluoroalkyl-containing metal complex of formula I, and a diamagnetic perfluoroalkyl-containing substance, optionally dissolved in an aqueous solvent, wherein the diamagnetic perfluoroalkyl-containing substance is a compound of formula XX

R^F-L^2-B^2 (XX)

in which R^F is a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, L^2 is a linker and B^2 is a hydrophilic group.

80. **(Previously Presented)** A method according to claim 79, wherein linker L^2 is a direct bond, an $-SO_2$ group, or a straight-chain or branched carbon chain with 1 to 20 carbon atoms, which can be substituted with one or more -OH, -COO, $-SO_3$ groups and/or optionally contains one or more -O-, -S-, -CO-, -CONH-, -NHCO-, $-CONR^9-$, $-NR^9CO-$, $-SO_2-$, $-PO_4-$, -NH- or $-NR^9$ groups, an aryl ring or a piperazine, whereby R^9 is a C_1 to C_{20} alkyl radical, which in turn can contain one or more O atoms, and/or can be substituted with -COO- or SO_3 groups.

81. **(Previously Presented)** A method according to claim 79, wherein hydrophilic group B^2 is a mono- or disaccharide, with one or more adjacent $-COO^-$ or $-SO_3$ groups, a dicarboxylic acid, an isophthalic acid, a picolinic acid, a benzenesulfonic acid, a tetrahydropyrandicarboxylic acid, a 2,6-pyridinedicarboxylic acid, a quaternary ammonium ion, an aminopolycarboxylic acid, an aminodipolyethylene glycolsulfonic acid, an aminopolyethylene glycol group, an $SO_2-(CH_2)_2-OH$ group, a polyhydroxyalkyl chain with at least two hydroxyl groups or one or more polyethylene glycol chains with at least two glycol units, whereby the polyethylene glycol chains are terminated by an -OH or $-OCH_3$ group.

82. **(Previously presented)** A method according to claim 55, wherein the metal complex has a hydrodynamic micelle diameter of > 4 nm.

83. **(Previously presented)** A method according to claim 56, wherein the metal complex has a proton relaxivity in plasma of > 15 l/mmol·s.

84. **(Previously presented)** A method according to claim 61, wherein the perfluoroalkyl-containing metal complex is in a galenical formulation that contains a

paramagnetic, perfluoroalkyl-containing metal complex of formula Ia and diamagnetic perfluoroalkyl-containing substance, optionally dissolved in an aqueous solvent.

85. **(Previously presented)** A method according to claim 71, wherein the perfluoroalkyl-containing metal complex is in a galenical formulations that contains a paramagnetic, perfluoroalkyl-containing metal complex of formula Ib, and a diamagnetic perfluoroalkyl-containing substance, optionally dissolved in an aqueous solvent.

86. **(Currently amended)** A method according to claim 51, wherein plaque in which contrast agent is uptaken is visualized.

87. **(New)** A method according to claim 51, wherein necroses and tumors in which contrast agent is uptaken are independently and simultaneously visualized.